

ANALYST:		VPDES NO.	VA00
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Parameter: Dissolved Oxygen
Method: Winkler (Azide Modifications)
03/01

METHOD OF ANALYSIS:

	18th EDITION OF STANDARD METHODS-4500-O C
	EPA METHODS FOR CHEMICAL ANALYSIS-360.2
	ASTM-D-888-92(A)
	USGS-METHODS IN WATER AND FLUVIAL SEDIMENTS-I-1575-78

	Y	N
1) Are representative samples taken with minimum turbulence and air bubble formation? [SM4500-O B.3; 360.2-4.1]		
2) Is the sample bottle allowed to overflow at least twice times its volume? [SM4500-O B.3; 360.2-4.3]		
3) Is sample bottle volume at least 250 mL? [SM4500-O B.3; 360.2-4.1]		
4) If the sample is not analyzed immediately, is it preserved with manganous sulfate solution, alkali-iodide-azide solution, H ₂ SO ₄ , and shaken as called for in the procedure and stored out of direct sunlight for less than eight hours? [SM4500-O B.4; 360.2-4.5/6]		
5) Are reagents free of contamination or growths? [Permit]		
6) Is 1-2 mL MnSO ₄ solution added to sample followed by 1-2 mL alkali-iodide-azide reagent? [SM4500-O C.3.a; 360.2-7.1]		
7) Are they added in a manner that minimizes air contact? [SM4500-O C.3.a; 360.2-7.1]		
8) Is the sample bottle stoppered and mixed thoroughly after reagent addition? [SM4500-O C.3.a; 360.2-7.1]		
9) Is precipitate allowed to settle to at least half the volume of the sample bottle before addition of H ₂ SO ₄ ? [SM4500-O C.3.a; 360.2-7.1]		
10) Is 1-2 mL concentrated H ₂ SO ₄ added? [SM4500-O C.3.a; 360.2-7.1]		
11) Is sample mixed thoroughly after addition of H ₂ SO ₄ ? [SM4500-O C.3.a; 360.2-7.1]		
12) Does the volume of sample titrated correspond to 200 mL of original sample corrected for sample loss due to displacement by reagents? [SM4500-O C.3.a]		
13) Is 0.025N (or 0.0375N for whole bottle) sodium thiosulfate or PAO used as titrant? [SM4500-O C.3.b; 360.2-7.2]		
14) If used, is the sodium thiosulfate titrant standardized weekly? [SM4500-O C.2.f; 360.2-6.7; Permit]		
15) Is sample titrated to the development of a pale straw color? [SM4500-O C.3.b; 360.2-7.2]		
16) Is starch solution added and titration continued to first disappearance of a blue color? [SM4500-O C.3.b; 360.2-7.2]		
17) If end point is overrun, is titrant volume corrected by back-titration with 0.025N bi-iodate or addition of more sample? [SM4500-O C.3.b]		
18) Are buret readings recorded on bench sheets? [Permit]		
19) Is sample value determined correctly? [SM4500-O C.4; 360.2-8]		

PROBLEMS: